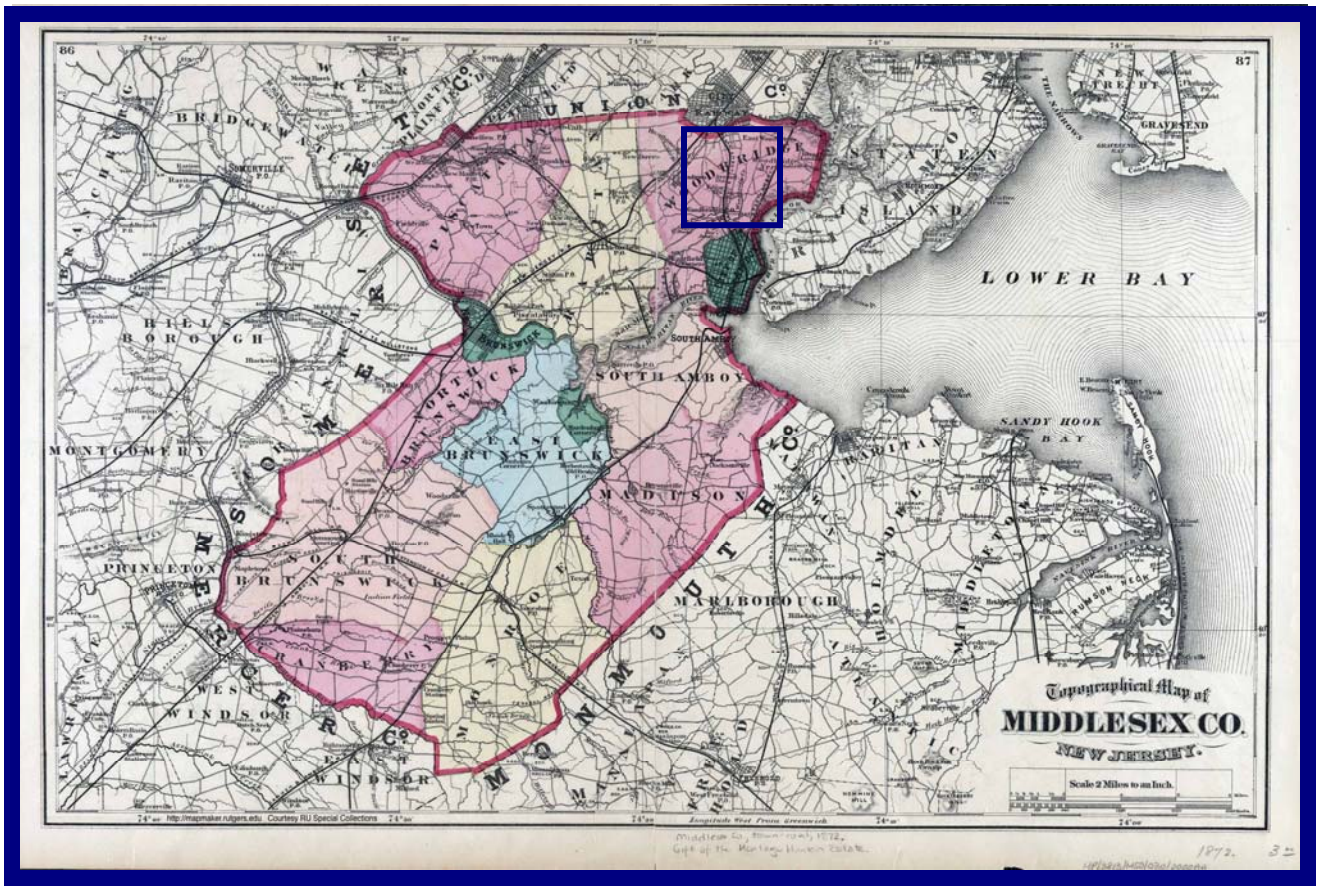

Woodbridge River Basin, Middlesex County New Jersey

Flood Damage Reduction and Ecosystem Restoration Study

Cultural Resources Baseline Report

August 2007

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Management Summary

The United States Army Corps of Engineers is conducting a feasibility study to consider the Federal interest in the Woodbridge River Basin Flood Damage Reduction and Ecosystem Restoration Study. The study area is located in Middlesex County, New Jersey. The study area has experienced multiple, significant, flood events, particularly in the areas between the New Jersey Turnpike and Port Reading Avenue, and along the Woodbridge River from the Port Reading railroad north to Crampton Avenue.

The Cultural Resources Baseline study was initiated in order to begin to satisfy National Historic Preservation Act, Section 106 regulations. It is recommended that a full Phase 1 be completed in the anticipated project area if it is determined that there is Federal interest in the Woodbridge River Basin Flood Control and Ecosystem Restoration Study.

I. Introduction

A. Project Description

The United States Army Corps of Engineers (USACE), New York District (District), was authorized by the U.S. House of Representatives Committee on Transportation and Infrastructure resolution dated May 6, 1998, to identify recommendations in the interest of water resources development, including flood control and ecosystem restoration. Accordingly, the Rahway & Woodbridge River Basins Reconnaissance Study (USACE 1999) established Federal interest for providing flood control and ecosystem restoration measures in the Woodbridge River Basin. As a result of the reconnaissance study (1999), the District initiated the Woodbridge River Basin Flood Damage Reduction and Ecosystem Restoration Study (Study) for which they are the lead Federal agency, and the New Jersey Department of Environmental Protection (NJDEP) is the non-Federal partner agency.

The Study area is located in Middlesex County in northeastern New Jersey (Figure 1). The watershed is approximately five miles in length from its headwaters, or the upper portion of the river, located in the northeastern corner of Woodbridge Township near the Carteret/Rahway Township line to its mouth at the Arthur Kill. The drainage area of the Woodbridge River Basin is approximately 10 square miles and includes Herds Brook, Wedgwood Brook, and Spa Spring.

The Study area has experienced multiple, significant flood events, particularly in the areas between the New Jersey Turnpike (Interstate 95) and Port Reading Avenue, and along the Woodbridge River from the Port Reading railroad north to Crampton Ave. The Rahway and Woodbridge River Basins Reconnaissance Report identified the Crampton Ave neighborhood and the Rahway Ave Mobile Home Park as the most flood prone communities within the Study area. Flooding in these areas is mainly associated with storm tides. Flood events have resulted in physical damage to mainly residential and public property, as well as a loss of economic activity. For example, the storm event in October 1996 damaged over 170 homes near Crampton Avenue and the Rahway Avenue Mobile Home Park, and totaled approximately $600,000 in damages (Killam 1997). The recurring nature of flood events in the Study area presents a threat to human life and safety for those that reside in the area (USACE 1999). The District identified additional floodprone communities in site investigations subsequent of the Rahway and Woodbridge River Basins Reconnaissance Report. Further investigation in these areas indicated that flooding is primarily due to increased rates and volumes of stormwater runoff, which should be addressed by local agencies.

B. Project Background

Intense urbanization and development have also led to the degradation of the environment within the Study area. For example, direct development impacts on ecological resources in the Study area include increased streambank erosion, loss of

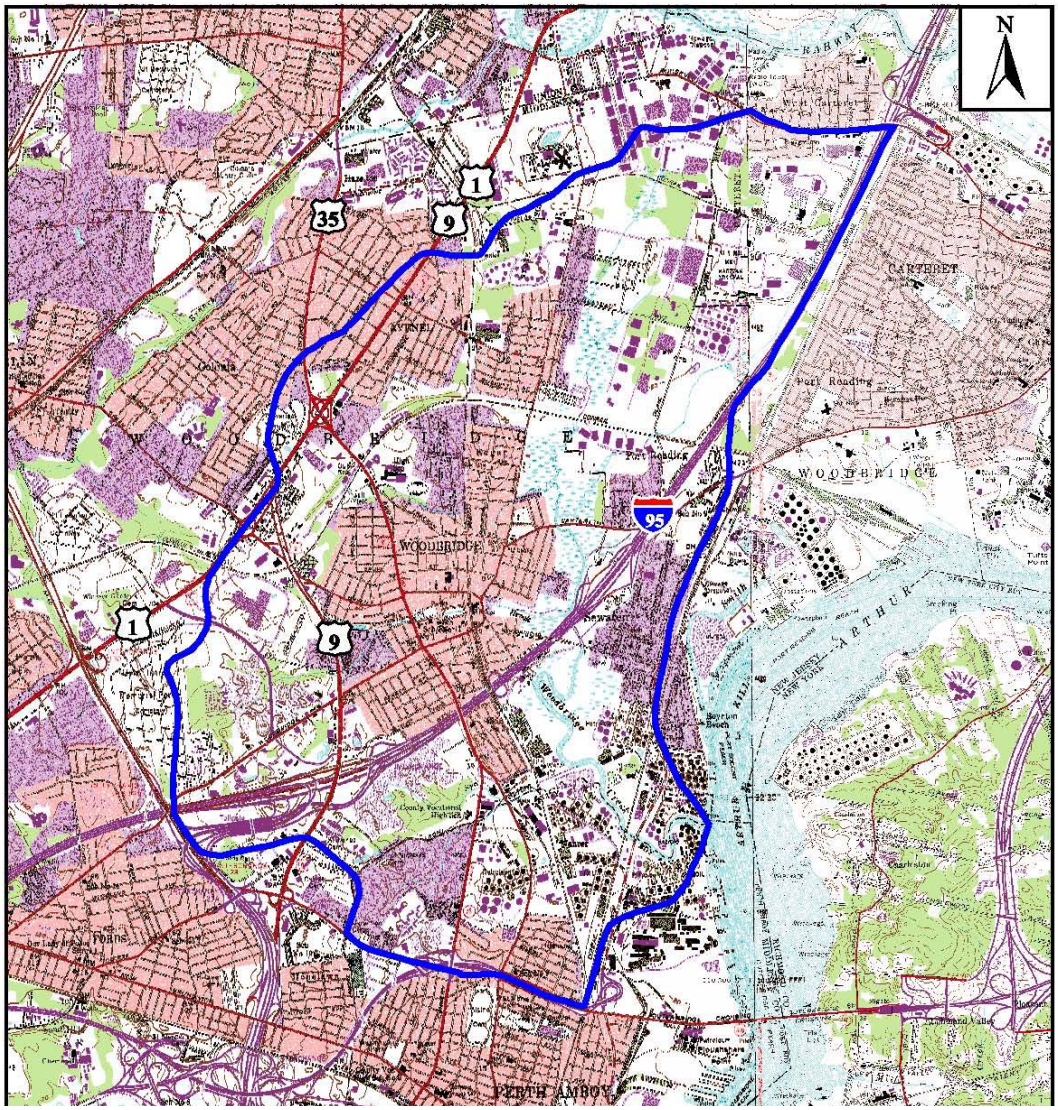

Figure 1: Location of the Woodbridge River Basin, Middlesex County, New Jersey (NEA, 2004).

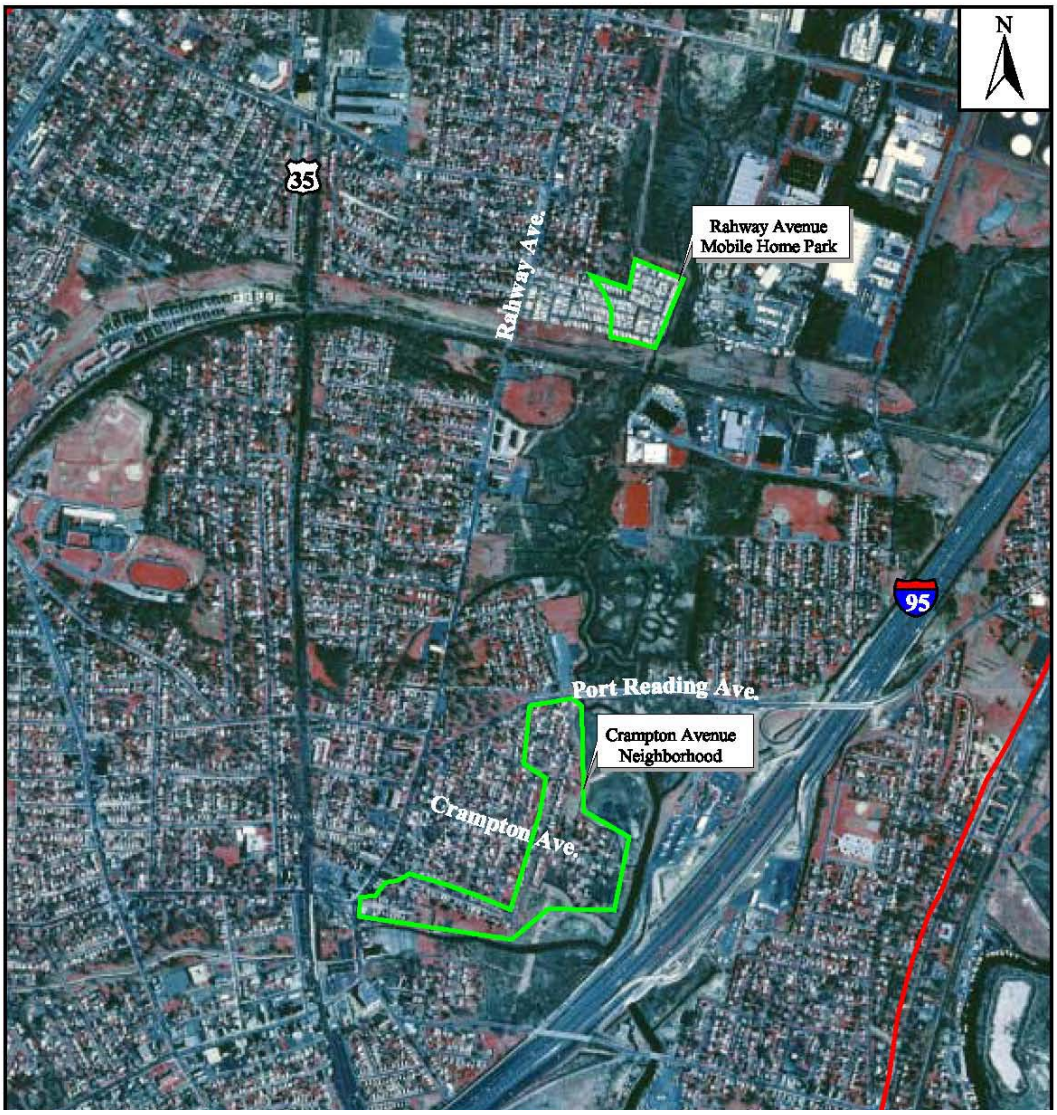

Figure 2: Anticipated Project Area (NEA, 2004).

wetland acreage, increased sedimentation, nutrient and pollutant loading, and channel siltation. Indirect impacts include increased rates and volumes of stormwater runoff, reduced groundwater recharge, increased stream temperatures, and increased acreage of invasive species. As a result of these direct and indirect impacts, opportunities for ecosystem restoration, including fish and wildlife habitat enhancement, water quality improvement, and restoration of natural floodplain values exist within the Woodbridge River Basin (USACE 1999).

C. Previous Research and Current Methodology

A limited Cultural Resource survey was conducted during the scoping phase of this project. There have been numerous cultural resource studies done in the area, as well as many local histories written. Both the cultural resource reports, as well as local histories, have been consulted prior to the writing of this report. The New Jersey State Historic Preservation Office was also consulted, as well as local interest groups. The New York Public Library at 42nd Street in Manhattan was also visited for consultation on historic maps as well as documentary research.

Analysis indicates that all currently identified flood control scenarios are not practical due to limited cost-effectiveness for the benefits predicted (i.e., a BCR less than 1). However, further investigation may identify additional solutions and examination of additional flood control scenarios that may meet the BCR requirement could allow the Feasibility Study to be developed further. A limited Cultural Resources Historic Baseline study was conducted to ensure a proper footing, should the project move forward. Recommendations for future cultural resource work, are included in this report, including shovel tests and further documentary research. This report is meant to satisfy Section 106 requirements, however the Corps is aware more detailed cultural resource work will be required.

II. Prehistoric Background

The prehistory of northeastern North America is marked by three major periods spanning a minimum of 12, 000 years. The earliest of these periods is the Paleo-Indian which lasted from 10, 000 BC to 8000 BC. Living in seasonal camps near fresh water sources, Paleo-Indians subsisted by hunting and gathering (Marshall 1982:19). The next period is the Archaic, which lasted from 8000 BC to 1000 BC and was characterized by seasonally occupied campsites and later by seasonal villages often exploiting riverine environments (Marshall 1982:19). The Archaic subsistence system was hunting and gathering with possibly incipient horticulture toward the end of the period. After 1000 BC, Native Americans of the Woodland period lived in seasonally occupied villages and campsites and subsisted by hunting, gathering, and by AD 1000, horticulture with settlements and camp sites located along riverine environments. Ceramics were first made in northeastern North America during the woodland period (Marshall 1982:19). These periods are described in more detail below.

Paleo-Indian Period

Paleo-Indian cultures were adapted to the tundra or park tundra environment characteristic of the late Pleistocene era. Paleo-Indians were highly mobile people who needed to travel long distances to obtain resources such as food and lithic raw materials for food production. About 12,000 years ago, the environment in the New Jersey Highlands was a mosaic of tundra and forests that were predominately pine, spruce, and fir, which eventually gave way to birch and oak (Marhsall 1982:17; Funk 1972: 10; Salwen 1975). Mega fauna were hunted when the Paleo-Indians arrived in the area ca. 10,000BC. Contemporaneity of early Paleo-Indian hunters and these animals has been established by radiocarbon-dated remains of the mega fauna excavated from areas in Northern New Jersey, New York and Pennsylvania (Marshall 1982:18).

Early Paleo-Indian chipped stone artifacts include fluted points, thin Lanceolate-shaped bifacial fluted down the center for hafting unifacial end and side scrappers, utilized flakes, and waster flakes (Marhsall 1982:13). Six fluted points were found in Morris County and, in all, fifteen were found in the Highlands region (Marhsall 1982:26). The points were made predominately of jasper, grey chert, black chert, and quartz. Fluted points gradually decreased in size as larger game animals moved north (Kraft 1986:47). Fluted points were eventually replaced as large mega fauna became extinct during the late Paleo-Indian/Early Archaic transition (8000-6000 BC) with unfluted triangular points, stemmed points and Plano points.

Archaic Period

Beginning after 8000 BC, the Archaic Period succeeded the late Paleo-Indian period, although the transition from Paleo-Indian to Early Archaic is not clearly indicated in the Middle Atlantic Region (Kraft 1986). Between 8000 and 6000 BC the hills and mountains were overgrown with pine, hemlock and oak while forests in the retreating glacier caused a continuing rise in sea levels forcing prehistoric people to move away from the coast. Aside from occasional technological changes and gradual environmental transformation, life continued much the same as it had in the previous period. People still lived in small territorial bands that hunted, fished and gathered plant foods. People of the early archaic period subsisted on fish, shellfish, berries, roots, tubers, eggs, nuts, and deer (Kraft 1986:51). They moved when food supplies dwindled. The small encampments close to rivers or ponds that are typical of Early Archaic sites reflect this mobility (Kraft and Mounier 1982a: 76). Stone tools were found at Early Archaic sites, including Site 28-Mr-43, which lies on the northeast bank of Lake Hopatong, and Site 28-Mr-43, located north of the watershed area.

The Middle Archaic period lasted from 6000 to 4000 BC. The climate was warm and moist by 5000 BC, and water levels continued to rise, forcing groups to move inland. People of the Middle Archaic subsisted on chestnuts, acorns, and fish, as well as the abundant forest animals. Heavy wood working tools included anvil stones, choppers, and an array of projectile points, along with netsinkers and fish remains found of archeological sites strongly indicate a riverine adaptation (Kraft 1986). For the Middle Archaic people, the most commonly used raw material included chert, jasper, argillite, shale, and rhyolite points (Kraft 1986:58).

The environment during the Late Archaic (4000-2000 BC) was similar to that of today. Hunting, fishing and gathering were still the principal daily activities, although greater emphasis was placed on small game, shellfish, nuts, and wild cereal grains like *Chenopodium*. This shift in subsistence strategies made higher population densities possible. While principal settlements were located near major a river, people still lived in bands whose territories were probably well-defined (Ritchie and Funk 1973).

Woodland Period

The introduction of pottery marks the beginning of the Woodland period. Pottery is significant because it improved the efficiency of food preparation (Curtin 1992:6) and storage supporting larger, more sedentary populations. The Early Woodland period lasted from 1000 BC to 1 BC. Early woodland cultures hunted, gathered, and fished. Meadowood people of the Early Woodland cremated their dead and buried them in cemeteries away from habitation sites (Williams and Thomas 1982:112). Other Early Woodland mortuary sites contained several different types of burials; some individuals were cremated, some flexed, others were extended or bundled. In general, mortuary sites commonly occur on high, well drained promontories that overlook open bodies of water (Williams and Thomas 1982:127).

The Middle Woodland period (AD 100-900) was characterized by four major phases. Fishing was an important activity for the fox creek culture (AD 325-450) (Fischer and French 1991: 148). Diagnostics of this phase include net marked pottery and Fox Creek Lanceolate and stemmed projectile points. Bolas, celts, pitted stones, hammer stones, anvil stones and pestles are frequently found in Fox Creek Sites. Petalas blades made of argillite and chert are often buried in catches and often found with sturgeon remains. A prime fishing location overlooking the Delaware River, the Abbot Farm site, revealed 127 Petalas blades and a long copper needle. The needle enabled the prehistoric fisherman to string their catch on a cord for drying (Kraft 1986:107). The Piedmont region is on possible source for this native copper (Williams and Thomas 1982: 115).

During the late woodland period, the subsistence system shifted its emphasis from the gathering of wild foods to the growing of domesticated plants. According Fischler and French, the earliest documented cultigen in the Upper Delaware Valley is cucurbita [gourd] at AD 1060 +/- 60” (1991:160). Corn horticulture was developed by AD 1020-1060 (Cassedy et al. 1993). This change was made possible sometime between AD 500 and 1000 by the development of Northern Flint corn, a cold-resistant strain that diffused broadly after its first appearance, probably in the Midwest (Fritz 1990). Corn associations with radiocarbon mean dates between AD 850-950 are reported from coastal Connecticut and the Susquehanna and Hudson drainages (Cassedy et al. 1993).

The introduction of corn horticulture was accompanied by sporadic population growth, settled village life, an enriched religious and ceremonial life, and warfare was present in Late Woodlands cultures. It seems likely that the late prehistoric peoples of the Highlands lived in small, unfortified, dispersed farmsteads or hamlets, in similar fashion to many of the New England and Upper Delaware Indians (Bender and Curtin 1990; Cronon 1984; Kraft 1986). Unlike earlier Woodland cultures, there were no separate cemeteries and

cremation was no longer practiced. People of the Late Woodland buried their dead flexed in bark-lined graves.

In northern New Jersey, the first major phase of the late woodland period is the Pahaquarra/Owasco phase (AD 1000-1350). Ceramics of this phase were collarless pots with cord marked bodies and cord-impressed rims (Kraft 1986:120). Specifically, these ceramics included Sackett Corded, Overpeck Incised, Bowmans Brook Incised, and Clemson Island (Fischler and French 1991: 157). Houses of this period were most often round ended long houses with the doorway on one of the sides (Kraft and Mounier 1982b:146). Deep storage pits are found at the ends. The houses ranged from 18 to 60 feet (5.5 to 18.3 m) long and up to 20 ft (6.1 m) wide. Levanna points are found in high frequencies on Late Woodlands Pahaquarra sites. Other stone tools include cobble flakes that could be used for a variety of purposes, flake knives, and hammer and anvil stones (Kraft and Mounier 1982b:148).

Besides hunting, gathering and gardening, Pahaquarra people spent a great deal of time fishing and gathering shellfish, ehich were then smoked in hearths or dried on stone platforms (Kraft and Mounier 1982b:151). Ceramics with well defined collars and incised linear geometric designs identify the Minisink phase (AD 1350-1650) of the Proto-Munsee people (Kraft 1986:120). Minisink longhouses wer virtually the same as those of the Pahaquarra/Owasco culture (Kraft and Mounier 1982b: 157). A wide variety of implements have been found on these later Woodland sites, including tools for hunting, butchering, hide preparation, fishing, plant processing, cooking, woodworking, and domestic activities (Kraft and Mounier 1982b: 154-155). Historic Munsee cultures show a continuous pattern of growth from these late woodland roots.

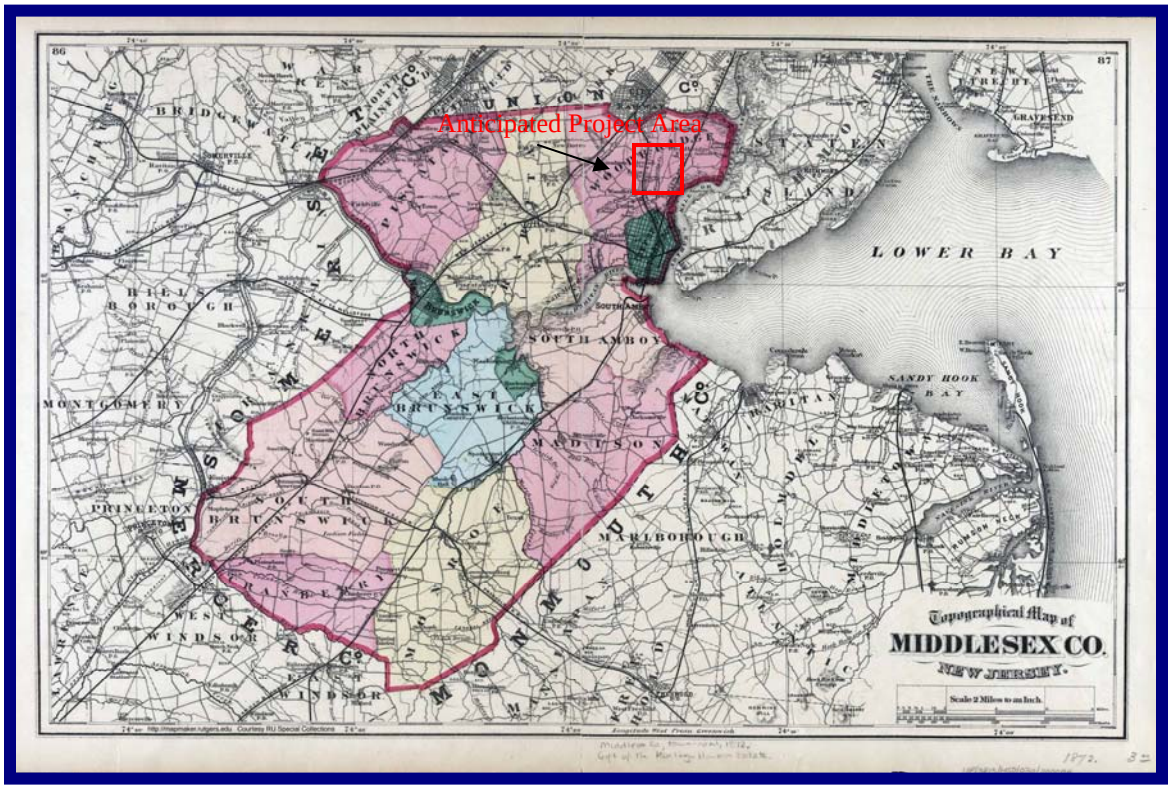

Figure 3: Middlesex County, 1872 (Beers, *Atlas of New Jersey).*

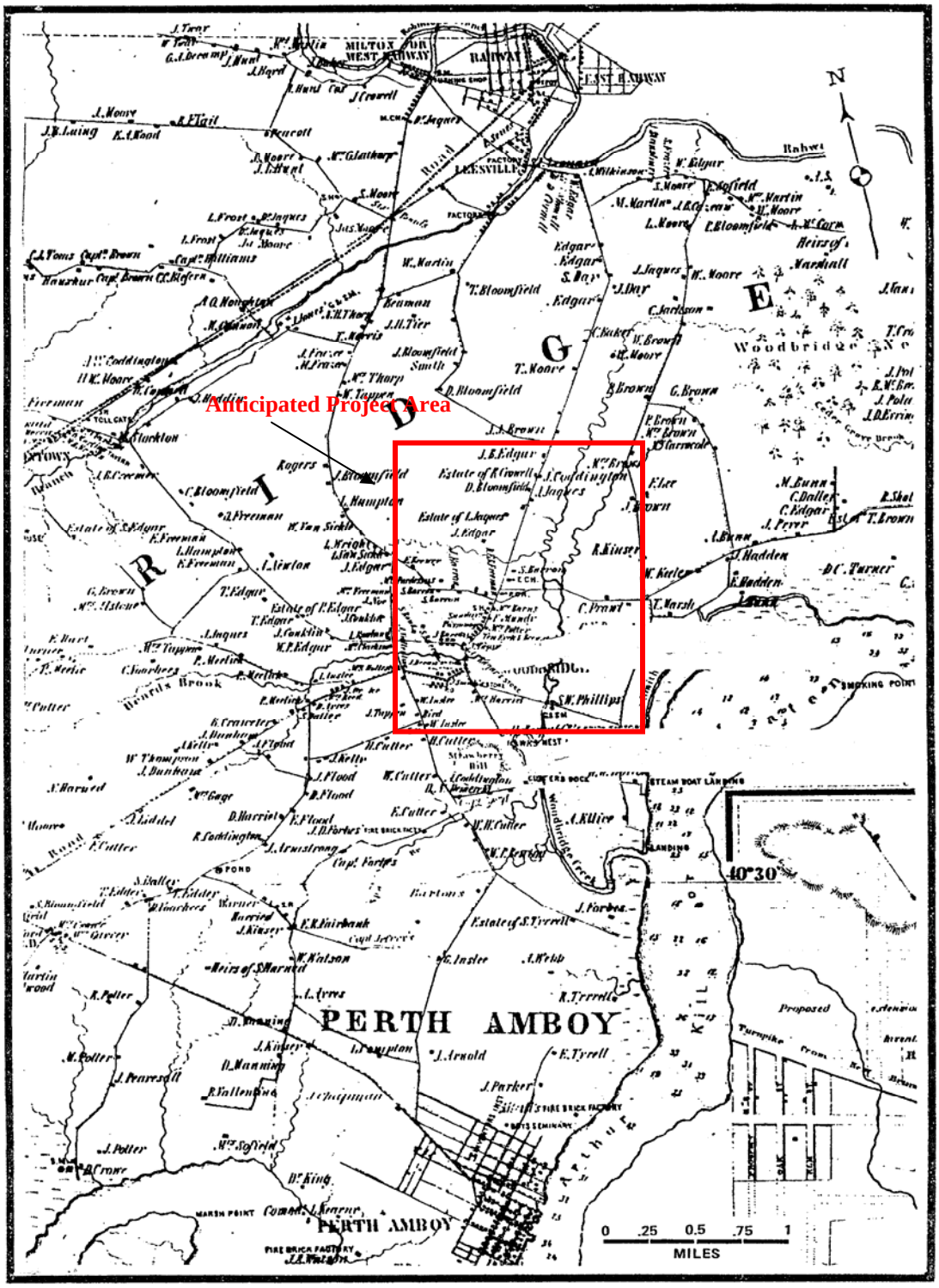

Figure 4: Woodbridge, 1850 (Otley and Keily)

III. Historic Background

Regional Overview

Although the French, employing Florentine navigator Giovanni da Verrazano, explored the Atlantic Coast of North America in AD 1524, the Dutch were the first Europeans to penetrate the streams and forests of what would become New Jersey. The Dutch claim to the region rested on the AD 1609 voyage of Henry Hudson, an English mariner in the service of the Dutch East India Company. Seeking a shorter route to the Spice Islands and India, Hudson with his ship the Halve Maen reconnoitered the coast of what would become New Jersey and the river that now bears his name.

Subsequent voyages by the Dutch captains established outposts in this portion of North America to advance the commercial interests of the United Provinces of the Netherlands, and included the expedition of Cornelis Jacobsen May, who sailed around the southern tip of present day New Jersey (Cape May) and explored Delaware Bay in 1614. From their base in New Netherland, the Dutch prosecuted the prized beaver pelt trade, competing with the English in the Connecticut River Valley and the Swedes in the Delaware River Valley. While the Dutch claimed both regions, only the Delaware Valley would actually feel their influence (Brasser 1978: 79-82; Goddard 1978: 220; Bureau of Electronic Publishing, Inc. 1995: New Jersey File; Ellis et. al. 1967:18-23; Burke 1991:1-18).

Loosely linked by a political confederacy, subgroups of Algonquin Delaware or Lenni Lenape Indians inhabited the area that would become New Jersey at the time of the arrival of the Europeans. Neither linguistically nor culturally homogenous, these subgroups spoke dialects of two closely related Eastern Algonquin languages, Munsee and Unami (Goddard 1978:213; Williams and Kardas 1982: 185-187). Affirmed by the 1758 treaty at Easton (Pennsylvania), the tradition dividing line between these subcultures was the Raritan River. The native groups north of the Raritan River, including those of the New Jersey Highlands and the lower Hudson River Valley spoke Munsee dialects, while the native groups south of the Raritan, including the Delaware River valley and Eastern Pennsylvania, spoke Unami dialects. Although occupying the mountainous region of northern New Jersey-southern New York, the Minisink Deleware maintained an extensive network of trails through the mountains in order to reach the rich shellfish areas along the Atlantic Ocean (Goddard 1978: 213-216, 222; Williams and Kardas 1982:186, 189-190; Kraft and Mounier 1982b: 139-141; Pitney 1914: 2-3).

Unlike most American colonies, the relationship between the first Europeans in New Jersey and the local Native Americans was relatively peaceful. Tensions between the Dutch and the Delaware increased during the middle decades of the seventeenth century. The Dutch population grew slowly but steadily and competition for the European trade goods exacerbated rivalries among the different Delaware groups. These conflicts tended to erupt in violence and bloodshed only along the lower Hudson River Valley (Goddard 1978:213-216, 221). Both British Colonial settlers and the Dutch utilized similar subsistence strategies, farming the flats along the rivers and fishing in those rivers. As a

result both groups tended to regard similar areas highly for the establishment of their settlements.
As the population of the European settlers', both Dutch and British, increased and spread throughout the colony, especially after 1664, the Delaware were forced to move west, ultimately out of New Jersey entirely. The Delaware for the most part generally sold the land to the Europeans, and then migrated to some other place. At conferences held at Easton, Pennsylvania, and Crosswicks, New Jersey, in 1758, the Delaware relinquished their claims to all lands in New Jersey. However, those Native Americans who wanted to remain were assigned to a reservation on Edgepillock Creek (later, Indian Mills). Eventually, the remaining Delaware left the area, resettling in either Pennsylvania, Wisconsin, or Indiana (Goddard 1978: 222; Williams and Kardas 1982: 186, 189-190; Kraft and Mounier 1982b: 139-141).

Although establishing several small short lived communities in the 1620's and 1630's including Hoboken, Pavonia (on Staten Island) and on Burlington Island in the Delaware River, and more permanent settlements on the 1640's along the Hudson Valley, the Dutch population of New Netherland rose only to a meager 1,200 by 1647 (Burke 1991: 2). The Dutch founded their first permanent settlement in the area that would be referred to as "New Jersey at Bergen" (later, Jersey City) in 1660. However, Dutch proprietorship over New Netherland was abruptly terminated four years later, when forces loyal to James, Duke of York and Albany, captured the colony during the Second Anglo-Dutch War. New Netherland was renamed New York and the duke was given control over all land west of the Connecticut River and east of the Delaware River. Later (as a gift, to two couturiers who had served King Charles II during the English Civil War and his subsequent exile in France) James (who was Charles' brother) awarded the land lying between the Hudson and the Delaware Rivers to John, Lord Berkeley, and Sir George Carteret. In the 1665 patent to the new proprietors, the colony was named Nova Caesaria in honor of Carteret's birthplace, the Isle of Jersey in the English Channel. Jersey is a corruption of Caeseria: "Jer" is a contraction of Caeser, while "ey" represents island Caesar's Island therefore; Nova Caesaria becomes New Jersey (Wacker 1982:199; Kim 1978: 8-9; Divine et al. 1995:51-53: Halsey 1882: 8-9; Bureau of Electronic Publishing, Inc. 1995: New Jersey File; Ellis et al. 1967:25-28; Pomfret 1964:8).

Prior to this time, the areas nominally under Dutch control were practically undisturbed by European occupation. Upon Philip Carteret's arrival in 1665 to become the first governor of New Jersey, he found a cluster of four cabins waiting for him at the site of what would become the capital of the colony, Perth Amboy (Kim 1978:5).

In 1674, the colony was divided into two separate governments, known as East Jersey and West Jersey. In 1702, the Crown reunited the two Jerseys into a single royal colony, but, while recognizing New Jersey as an independent colony distinct from New York, forced the two colonies to share a Colonial governor from 1702 until 1738. In 1700 the population of New Jersey stood at approximately 14,000. Its residents lived on scattered, often isolated farmsteads; with villages of more that a few hundred people rare. The New Jersey legislature, uninterested in the remaining Native American presence, considered

the northwestern portion of the colony, including the study area, uninhabited in 1707 (Pomfret 1964:21; Wacker 1982:200-209; Divine et al. 1995:53).

Local Overview

The township that the project area is located in, Woodbridge Township, is often referred to as the oldest township in New Jersey. It was "ordered" that Woodbridge be "laid out" on the third of December 1667. However it was not until the sixteenth day of June 1669 that the charter for Woodbridge was granted by the Governor of New Jersey, Lord Philip Carteret (Dally; 17).

The boundaries for the township were laid out in the Charter as follows: "On the east side by the Arthur Cull River, otherwise called the Sound (*Arthur Kill),* that parts Staten Island from the maine [land]; on the north side by the bounds belonging to Elizabethtown, on the west side by the bounds belonging to New Piscataway, and on the south side by the aforesaid Raritan's River." (Dally; 24). No precise maps of the early surveys exist (Kardas and Larabee; 7). Kardas and Larabee in their 1976 report, "Prehistoric and Historic Cultural Resource Survey, Woodbridge Township Sewer Line, Middlesex County, New Jersey" give an excellent accounting of the early roads of Woodbridge. It will not be repeated here, but is available at the New Jersey State Historic Preservation Office (Kardas and Larabee; 7-9).

The land was divided for the use of sixty families, with two hundred acres being set aside for the town's minister and one hundred more acres for a free school. There were also lands that were donated for the use of a church, churchyard, market place, and other public purposes (Dally; 25).

Historic Public Buildings

Mr. John Dunham erected the first Grist Mill in Woodbridge in 1670. It is said that the gristmill was located "…along the road over the Papiack Creek at the first bridge to which you came after passing the Presbyterian Church" (Dally; 17) The mill is no longer standing however in *Woodbridge and Vicinity,* Joseph Dally asserts that in 1967"the old timbers which once supported it are lying on the ground and mark the site of the ancient building, on the west side of the stream," (Dally; 17). This area is not within the current project area of the USACE.

The Episcopal Church, Trinity, has been the focus of much historical works when writing of Woodbridge. It occupies what was once the center of Woodbridge Township and has a history that dates back to the founding of the town. It should be noted here that the church is not within the project boundaries, and will not be affected by the currently proposed work. Trinity is thought to have been built in the early part of the 18th Century. This church was designed to be 87 feet in length, 23 feet wide, and 13 feet tall. The Church stood for a number of years before being destroyed by fire. A later church was built in the same spot in 1754 and stood for 100 years, until it was consumed by fire in 1858. And the third church, which stands today, was constructed in 1860 (Dally; 25). This Church is

recently listed on the National Register of Historic Places (5/2004) as well as the New Jersey State Register of Historic Places (3/2004). At the time of this writing however, the file for the church was unavailable at the State Historic Preservation Office.

Located on the property with the Episcopal Church is a brick building, used as the Church rectory that is thought to stand on the foundations of the mansion of John Dunham, the owner of the first Grist Mill in Woodbridge (Ludewig; 18).

The Trinity Church burial ground is located adjacent to the church and has been in existence as a burial ground since 1714, though the earliest headstone only dates to 1750 (Ludewig; 19). The burial ground will not be disturbed by the currently proposed project.

The congregation of the Trinity Church was divided, patriot and loyalist, throughout the Revolutionary War. The church itself served as a barracks for British and Hessian troops while Dunham's mansion housed Colonial forces (Troeger and McEwen; 52).

The first Presbyterian Church of Woodbridge is also another community landmark that dates well intro the history of the town. Built in 1803 the church has served the community for over 200 years (Ludewig; 23). The church is not listed on the National Register of Historic Places, nor will it be affected by the currently proposed project.

Thomas Barron, a local merchant of Woodbridge, made a request in his will that $50,000 be used to construct a library in his town. It was in 1875 that the Barron Library was created, on Rahway and Carteret Avenues, near the Presbyterian Church. A description of the building, taken for the National Register for Historic Places nomination form is as follows: "Richardsonian Romanesque with earlier Victorian influences, is a 1 ½ story L-form rock faced brownstone building with a high 3 story clock tower in the inside corner of the L. At the third level of the tower are two clocks on the facades open to view…"(NRHP nomination form, 1977). The building was said to contain "a large number of volumes, with newspapers, magazines, and other periodicals, and is altogether an ornament and a great addition to the town," (Wall and Pickersgill; 409). This building has been nominated, and is on, both the State and National Register of Historic Places (nomination forms included in Appendix A). It does fall within the project boundaries, but will not be affected by the proposed project.

It was in 1751 that James Parker established the first printing press in New Jersey in Woodbridge. It is possible that the office was located on the south side of Strawberry Hill along or near Cutter's Dock Road (Dally; 200-01). Parker's press published a number of important New Jersey works in the Colonial Period (Kardas and Larabee; 9). This possible location of the press is not in the proposed project area and will not be affected by the proposed project.

The Revolutionary War

During the Revolution, Woodbridge was a hot bed of activity. In the summer of 1776 Woodbridge became a thoroughfare for both the British and Colonial forces, due to it's

strategic location. Mainly Hessian and British soldiers through periods of the war occupied the township, the Americans having lost battles on Long Island, White Plains, and Fort Washington (Troeger and McEwen; 43). It was in 1777 that Woodbridge became a battleground for the Revolution with a major skirmish being fought there, opening in the vicinity of the Routes 1 and 9 where the Americans met Lord Cornwallis' troops along Oak Tree Road (Troeger and McEwen; 44).

Woodbridge is a township honestly able to claim that George Washington did indeed 'sleep here'. As Washington made his way north, in 1789, to take his oath of office, he stopped in Woodbridge, spending the night at the Crossed Keyes Tavern, a building still standing in Woodbridge (on the north side of James Street, presently occupied by the Knights of Columbus). The venerable visitor was escorted to the Inn by the Woodbridge Calvary, commanded by Capitan Ichabod Potter (Troeger and McEwen; 54).

The Clay Industry

The area surrounding and including Woodbridge is universally known for it's fine clay deposits. The 19th century saw an industrial flourish in Woodbridge with the ceramic industry booming within the township. "The first documented clay shipment from Woodbridge took place in 1816, when a merchant named Price sailed a boatload of fire clay to Boston (Troeger and McEwen; 57).

In 1825 the Salamander Works, a clay manufacturing company, opened its doors on the banks of Herd's Brook on Rahway Avenue. The Salamander Works become known in the 1830's and 1840's for stoneware that used a Rockingham Glaze. The company produced several pitchers that were of a unique design: dog-handled pitchers, another showing a side wheel steamer, and pitchers displaying grapevines, satyr masks, faun's heads and scrolls. The company's doors were eventually closed in the first decade of the 20th century when the factory was moved to Trenton, New Jersey. Presently a shopping strip has been erected over the Salamander Factory foundations (Troeger and McEwen; 58).

In 1859 it is said that was said that material for nearly 80,000,000 firebricks was at that time being sent annually to the market from Woodbridge. By the end of the 19th century Woodbridge was producing tile, pipe and brick that was, and still is, known throughout the world (Troeger and McEwen; 66).

The clay business was a large draw for many immigrants who flocked to Woodbridge's shores throughout the 19th century. "A foreman at the National Fireproofing Company…learned five languages so that he might communicate with his diverse workers" (Troeger and McEwen; 61). The devastating potato famine in Ireland in 1846 and later economic downturns brought thousands if Irish immigrants to America's shores and ultimately to Woodbridge (Troeger and McEwen; 62).

The 1940's saw the last of the ceramic business in Woodbridge. Nancy China Inc., opened on upper Green Street. It's products included sugar bowls, pitchers, covered boxes, and plates decorated with fruit and flower motifs.

Transportation

The Pennsylvania Railroad built a branch from Rahway to Perth Amboy in 1865, with station stops at Woodbridge, Avenel and Spa Springs. Prior to the development of the railway in the region transportation was achieved via boat, carriage, horse, and sleigh (Wall and Pickersgill; 410).

In 1929, the first Safety Engineered Super Highway intersection was built at the intersection of US Rt. 1 and NJ Rt. 35 in Woodbridge. It is believed to be the first such intersection built in the United States or the world. It was known as the Woodbridge Cloverleaf. When the NJ Turnpike opened in 1951, it created the famous intersection with the Garden State Parkway in Woodbridge. This intersection has been considered for the New Jersey State Register of Historic Places (SHPO opinion 7/1991).

IV. Assessment of Archaeological Potential

Prehistoric Resources

Based upon previous cultural resource reports conducted in the area, as well as site visits conducted in November of 2004, it is unlikely that any prehistoric resources will be present in the currently proposed project area. Habitation sites of all periods would have been located on elevated locations near water. Both of the project locations are wetlands that would have not been inhabited. Resource procurement is a possibility in these locations, however there would probably be no remains left to speak of. The Crampton Avenue site in particular has been "subjected to fill episodes and landscaping" leaving little doubt that any prehistoric resources would remain.

Historic Resources

Based upon documentary evidence, as well as previous resources, it is not expected that any historic resources will be disturbed by the currently proposed project. While it is acknowledged that there is the possibility of historic cultural resources being disturbed along the Woodbridge River, the currently proposed project is well out of reach of any of them. The mining and manufacturing along the Woodbridge River by the clay industry, as well as the subsequent modern manufacturing plants and housing developments, have destroyed any historic contexts that would have otherwise been possible.

V. Summary and Recommendations

The currently proposed project is not anticipated to affect any prehistoric or historic cultural resources in the project area. While the Woodbridge area remains rich in historic

resources, they mainly lie outside of the project area. It is recommended that a Phase 1 be conducted to ensure that all aspects of Section 106 are satisfied. It is recommended that the shovel tests be conducted along the rights of way of the project, the construction staging areas.

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